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Approximating Fixed Points by a Two-Step Iterative Algorithm

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Abstract : In this paper, we introduce a two-step iterative algorithm to prove a strong convergence result for approximating common fixed points of three contractive-like operators. Our algorithm basically generalizes an existing algorithm..Our iterative algorithm also contains two famous iterative algorithms: Mann iterative algorithm and Ishikawa iterative algorithm. Thus our result generalizes the corresponding results proved for the above three iterative algorithms to a class of more general operators. At the end, we remark that nothing prevents us to extend our result to the case of the iterative algorithm with error terms.

Keywords : contractive-like operator, iterative algorithm, fixed point, strong convergence
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